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A New Species of *Eleutherodactylus* (Leptodactylidae: Anura) from Southeastern Chiapas, Mexico

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As in the Hylidae, the more poorly understood species of *Eleutherodactylus* are those montane forms living in cloud and rain forests. The herpetological investigations on Volcán Tacaná, Chiapas, Mexico, conducted by Messrs. M. J. Landy and E. O. Moll and Dr. D. Langebartel yielded numerous specimens of *Eleutherodactylus* among which is a remarkably distinctive and new species.

Eleutherodactylus chiquito sp. nov.

Holotype. University of Illinois Museum of Natural History 55417. Collected at El Chiquihuite, Chiapas, Mexico, at an elevation of 7000 feet on Volcán Tacaná, by Macreay J. Landy, David Langebartel and Edward O. Moll, August 1, 1963.

Parat y pes U I M N H 55416, same data as holotype but collected 400 feet higher in elevation along a stream ; UIMNH 55526, same data as holotype.

Diagnosis and definition. —A species of *Eleutherodactylus*, related to *E. rugulosus* and *E. matudai*, characterized by: small size (34.8 mm. snout-vent maximum) ; rugose dorsum ; tarsal fold or tubercle lacking ; toes with small web ; fingers lacking or with a vestige of a web ; fingers and toes with a distinct lateral fringe ; venter heavily mottled ; dorsum dark, little pattern ; snout box-like in lateral profile ; canthus rostralis sharp ; tympanum small, partially hidden above, two-thirds diameter of eye in females, three-fourths in males ; vomerine dentigerous processes present, well developed.

Description of holotype. *Male*, adult; head slightly longer than wide, wider than body; eyelid width greater than interorbital distance ; canthus rostralis sharp, loreal region slightly concave, labial region flared somewhat ; tympanum small in relation to head, three-fourths diameter of eye ; supratympanic fold prominent, beginning at eye, passing over top portion of tympanum, concealing it, continuing slightly past tympanum where it becomes broken up ; tympanum round, edges not raised from sides of head ; tongue small, oval, free for posterior one-fourth, thick,

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slightly nicked behind ; no vocal slits ; choanae well visible when viewed from directly below, very small and round ; vomerine dentigerous processes oval, closely juxtaposed, posterior end well medial to choanae ;

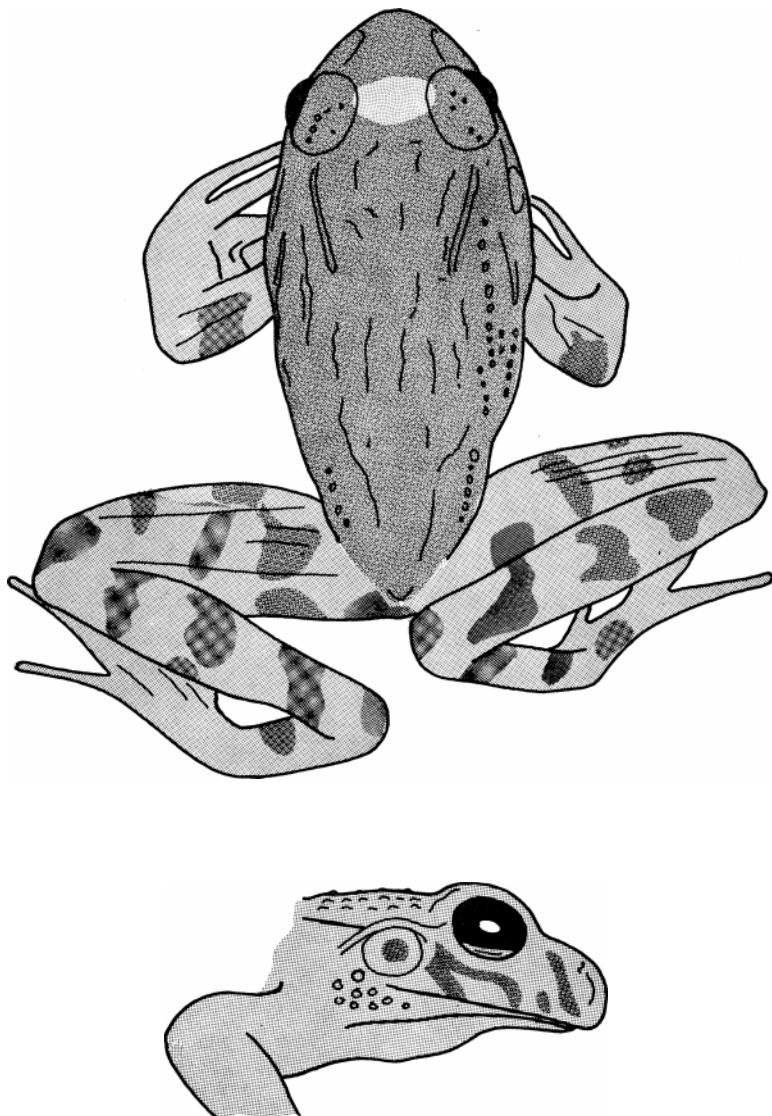


FIGURE 1. Holotype of *Eleutherodactylus chiquito* sp. nov. Somewhat diagrammatic. C. Beiger delineator.

seven teeth on right process, five on left.

Ridges on upper and lower arm ; numerous tubercles also ; on posteroventral surface of forearm, a distinct row of tubercles ; a lateral carpal tubercle ; two palmar tubercles, outer absent ; supernumerary tubercles few, small, flattened ; subarticular tubercles small, not pronounced or sharp, simple ; fingers with a lateral fringe ; a mere vestige of a web on fingers 2-3 and 3-4 ; tips of fingers not expanded ; prominent transverse groove on tips.

Skin of head, dorsum, sides and limbs very tubercular with the tubercles forming numerous ridges (anteroposterior on body ; transverse on legs) ; venter smooth ; heels overlapping slightly when flexed legs

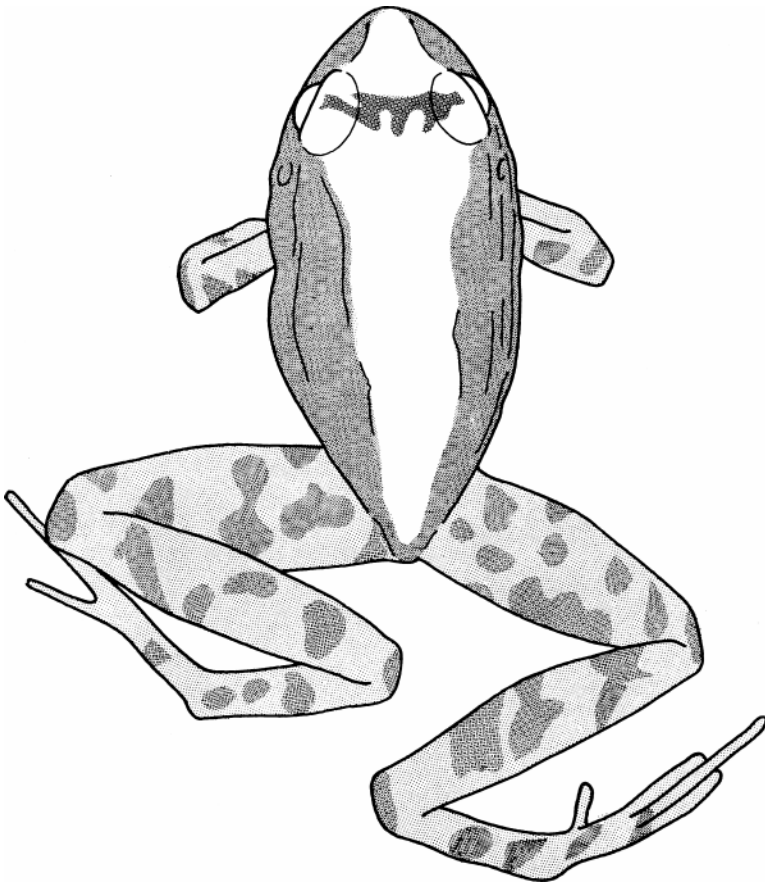


FIGURE 2. Paratype of *Eleutherodactylus chiquito* with the "dorsoconcolor" pattern. UIMNH 55416.

held at right angles to body ; heel of adpressed leg extending far beyond tip of snout ; no inner tarsal tubercle or fold ; a few outer tarsal tubercles ; toes with distinct web and lateral fringe ; inner metatarsal tubercle oval, not compressed, three times size of outer ; no supernumerary tubercles ; subarticular tubercles conical, blunt, small, simple ; toe tips not expanded.

Color in alcohol. —A light interorbital bar ; dorsum otherwise dark brown-black ; limbs with slightly discernible black bands four on thigh,

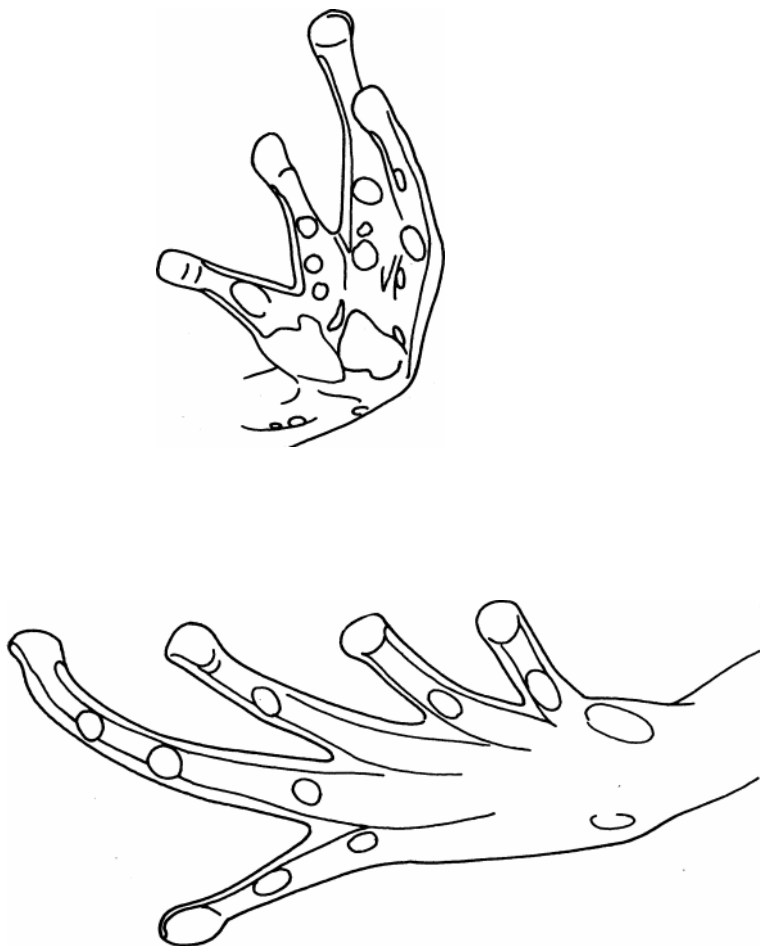


FIGURE 3. Ventral views of hand of holotype (top) and foot of holotype (bottom) .

three on tibia, one on lower arm, three on upper. Loreal and labial regions with labial bands, four discernible, two and three entering orbit ; sides reticulated with cream and black ; venter cream with heavy black mottling; chin and throat nearly uniform black; posterior surfaces of thighs with few cream spots and reticulations, cream more extensive on ventral surfaces web and lateral fringes of toes and fingers cream, rest of foot and palm black.

Variation. The female paratype agrees in proportions with the male except that the tympanum is smaller 62.8% of eye as compared with 76.2% for male. The paratype lacks the middorsal ridges and tubercles evident in the holotype and has instead a dorsal pattern much like *E. dorsoconcolor* (a polymorph of *E. rhodopis*). The central light-colored area is dirty cream in preservative (orange in life, M. J. Landy, pers. comm.) . There is a prominent black interorbital bar. The leg banding is much clearer, showing large areas of white on the anterior surface of the thigh. The venter is less boldly marked.

The second paratype is a juvenile, 28.5 mm. snout-vent, but the characteristics are the same as for the holotype and other paratype. The juvenile has dorsolateral folds like the adult paratype but the dorsal color is uniform black ; the venter is heavily pigmented as in the holotype.

Remarks. This species is regarded as a member of the *E. rugulosus-group* which is composed (in northern Central America) of six other species and subspecies (*E. rugulosus rugulosus*, *E. r. natator*, *E. vocalis*, *E. matudai*, *E. brocchi*, and *E. milesi*) . A review of the group is available elsewhere (Lynch, 1965) .

E. chiquito can be confused only with *E. milesi* Schmidt, a small frog with a tuberculate dorsum. *E. milesi* is found in northwestern Honduras, averages about 28 mm. in snout-vent length (maximum 33) , has a weakly defined or absent tympanum, vocal sacs and a light venter. *E. chiquito* appears most closely allied with *E. matudai* and *E. brocchi* which are probably more recently derived from a stem of the *E. rugulosus* group of which *E. chiquito* is a primitive representative.

The species probably ranges through the high Sierra Madre range in Chiapas and Guatemala although not extensively. Future collecting will undoubtedly reveal its occurrence in Guatemala on the Guatemalan side of Volcán Tacaná.

Etymology. The specific name, *chiquito*, is taken from the Spanish diminutive substantive Chiquita, applied by the Mexican collectors to small *Eleutherodactylus* as well as to many other small objects. The name is used as a noun in apposition with the generic name.

Measurements. The holotype and paratype (latter in parentheses) measurements in mm. are : snout to vent 34.8 (33.4) ; tibia 22.65 (23.3) ; head width 14.4 (14.25) ; head length 14.85 (13.3) ; tympanum, hori-

zontal diameter, 2.85 (2.45) ; eye 3.74 (3.91) ; eyelid width 3.35 (3.25) ; interorbital distance 3.25 (2.9) ; length of snout 4.35 (4.85).

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